

Appl. No. : **10/530,071**
I.A. Filed : **October 4, 2003**

REMARKS

Claims 1-15 stand rejected. Applicant has cancelled Claim 10 and has amended Claims 1, 2, 3, 5, 11, 12, 13 and 15. Applicant has added new Claims 16-18. Thus, Claims 1-9 and 11-18 are pending in the application and are presented for reconsideration and further examination in view of the amendments and the following remarks.

Interview Summary

Applicant would like to thank Examiner Frantz for taking the time to discuss the outstanding Office Action in a telephonic interview with counsel for Applicant on April 17, 2007. During the interview, drawing informalities were discussed including the line quality and scale of the drawings. Accordingly, Applicant is submitting formal drawings to take the place of the informal drawings currently before the Examiner. Applicant has improved the scale and quality of the drawings. The improved line quality of the formal drawings and added arrows clarify the structure of the continuous core region in Figures 2 and 7. No new matter has been added. Applicant respectfully requests the entry of the formal drawings.

Drawings

The drawings were objected to for not illustrating the "positive guidance" recited in Claims 1 and 11. In response, Applicant has amended Claims 1 and 11 to clarify that the shaft guides movement of the lamellae in both forward and backward directions. Applicant respectfully submits that the objection has been overcome.

The structure recited in Applicant's Claim 1 and 11 provides important advantages over prior art pumps. Unlike the prior art where the resilience of the compressed hose pushes the lamellae in the backward direction, the shaft in Applicant's Claims 1 and 11 pulls the lamellae in the backward direction away from the compressed hose. Applicant's inventive shaft is not a separate shaft running through the cam segments but is formed by the cam segments themselves. In prior art devices when the hose walls stick together after the lamellae compress the hose, the flow through the pump becomes obstructed. In some cases when the walls stick together, the flow through the pump is not only obstructed but may even reverse its flow direction. Another disadvantage of prior art devices and their reliance on the resilience of the compressed hose to

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push the lamellae in the backward direction is the increased risk of pinching the hose. This pinching may damage the hose and result in a drop of fluid pressure. Any malfunction of the pumping device is serious and may increase the risk of loss of life to the patient.

Corrections to the Specification

The abstract has been shortened to one paragraph. The specification has been amended to include the appropriate section titles. Applicant did review the portion of the specification where the Examiner recommended replacing the phrase "in the region of the eight" with the phrase "in the region of the second." Applicant respectfully disagrees with the objection. The cited sentence is referring to the eighth cam segment which includes an illustration of the continuous core 22 extending through the eight segment. Applicant has amended the description of Figure 13 to also refer to Figures 2 and 7 which do illustrate the continuous core region 22. No new matter has been added by the amendment.

Claim Rejections under 35 U.S.C. § 112, 1st ¶

Claims 1 through 15 were rejected as failing to comply with the enablement requirement. The Office Action identified the manner in which the continuous core region is defined, made and used is not clearly enabled. In addition, the office action states the drawings are incomprehensible and are not detailed enough to enable the making and use of the claimed invention. The drawings further lack a clear perspective drawing or cross-sectional view of the claimed invention. Applicant has submitted formal drawings with the amendment which clarify the invention. With respect to the continuous core region which is comprised from overlapping cam segments, Applicant respectfully submits that one having ordinary skill in the art reading, for example, paragraphs [0046], [0049], [0052], [0058] and Figures 2, 7, and 11 could practice the invention.

The prior art devices include a central shaft. The embodiment recited in Claim 1 instead include a "one-piece shaft with cams arranged so as to be offset with respect to one another and with attached lamellae ... wherein the cams are cam segments" and "the shaft is essentially without a core shaft and essentially without a continuous core region." Only the cam segments

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are joined to one another to build the shaft. No additional shaft is running through the cam segments.

In some embodiments the cam segments overlap and define a continuous core region. Even in embodiments that define a continuous core region, there still is no additional shaft running through the cam segments. A disadvantage of overlapping the segments to define a continuous core region is the degree of movement of the segments relative to each other is limited since the cam segments overlap each other. However, the continuous core region may enhance the stability of the pump. As is illustrated in Figures 2 and 7, the core region 22 may have a small size.

In embodiments where the cam segments do not overlap but still form the inventive shaft, no continuous core region is formed. An advantage of such an embodiment is the stroke of the lamellae is increased since the cam segments need not overlap. An embodiment having cam segments that do not overlap is illustrated in Figure 11. Applicant respectfully submits that with the submission of the formal drawings, the rejections of Claims 1-15 for failing to comply with the enablement requirement has been overcome.

Claim Rejections under 35 U.S.C. § 112, 2nd ¶

Claims 1 through 10 were also rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Office Action identified the ranges "4:1 or less" and "below 3 mm" in Claims 1, 2, and 5 as being indefinite. Claim 10 was rejected for not including any steps involved in the claimed method.

Applicant has replaced the range "4:1 or less" with "from about 4:1 to 1:1." Applicant has replaced the range "below 3 mm" with "between 3 mm and almost zero." Applicant respectfully submits that amended Claims 1, 2, and 5 are definite. With respect to the rejection of Claim 10, Applicant has cancelled the claim.

New Claims 16-18

Applicant has added new Claims 16-18 which each recite limitations similar to the limitations recited in Claim 1 and a portion of cancelled Claim 10. Applicant respectfully request examination of new Claims 16-18.

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CONCLUSION

For the foregoing reasons, it is respectfully submitted that the rejections set forth in the outstanding Office Action are inapplicable to the present claims, and that those claims are in condition for allowance. Accordingly, early issuance of a Notice of Allowance is most earnestly solicited.

Any remarks in support of patentability of one claim should not be imputed to any other claim, even if similar terminology is used. Additionally, any remarks referring to only a portion of a claim should not be understood to base patentability on solely that portion; rather, patentability must rest on each claim taken as a whole.

The undersigned has made a good faith effort to respond to all of the noted rejections and to place the claims in condition for immediate allowance. Nevertheless, if any undeveloped issues remain or if an issue requires clarification, the Examiner is respectfully requested to call Applicants' attorney in order to resolve any such issue promptly.

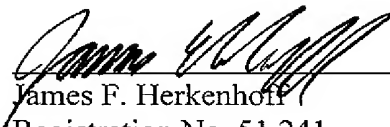
Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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